UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/166,814	10/06/1998	JOHN PAUL RUSSELL		9555

7590   02/20/2004

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ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 02/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 December 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29 and 32-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,12-20,22-29,32 and 35* is/are rejected.

7)☒ Claim(s) *9,11,21,33,34 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 11, & 21 objected to because of the following informalities: "a K3 byte of each

virtual container" is failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
> in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
> patent by another filed in the United States before the invention by the applicant for patent, except that an
> international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
> subsection of an application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-3, 5-8, 10, 12-14, 16-20, 22, 24-26, 28-32 and 35 are rejected under 35

U.S.C. 102(e) as being anticipated by Saijonmaa et al. (U.S. Patent No. 5706285).

        - With respect to claims 1-2, 13, & 32, Saijonmaa teaches a method of transporting data

over a synchronous digital network (e.g. Fig. 1 shows the system 1A transmits data over 5 to

system 1B). The method comprises the steps of: generating in parallel a plurality of virtual

containers (e.g. ATM cells 4 in to SDH frame as Fig. 3 & 4), each to be transmitted over the

synchronous digital network at a lower bit rate than a bit rate of the data to be transmitted, each

the virtual container having a payload section and a path overhead section (bridge paragraph

between col. 1 and 2);

associating the plurality of virtual containers with each other by means of inputting

association data into the path overhead of plurality of virtual containers (col. 5, lines 34-45);

inputting the transported data to be transmitted into the payloads of the plurality of

virtual containers (cell in to STM-1 frame or SONET frame);

and outputting the plurality of associated virtual containers onto a synchronous digital

network (Fig. 1 SDH network).

- With respect to claim 3, Saijonmaa also teaches wherein the step of associating the

plurality of virtual containers with each other comprises inserting the association data into a

plurality of payloads of the plurality of virtual containers (cell in to STM-1 frame or SONET

frame), the association data permitting recovery of the original association at a destination end

(col. 4, lines 4-6).

- With respect to claims 5-8, 10, 12, 16-20, 30-31, & 35, Saijonmaa discloses wherein the

plurality of virtual containers are generated as a plurality of streams of virtual containers

(streams of VC is lines 6 in Fig. 1) and the step of associating the plurality of virtual containers

with each other comprises associating a plurality of the streams of virtual containers and data

with each other (col. 6, lines 15-27).

- With respect to claim 14, Saijonmaa teaches a method of recovering data from a

plurality of synchronous virtual containers (e.g. Fig. 1 shows the system 1A transmits data over 5

to system 1B). The method comprises the steps of: receiving the plurality of virtual containers

(SDH frames receive at 1B in Fig. 1);

identifying an association data from the plurality of virtual containers, the association

data indicating an association between individual ones of the plurality of virtual containers (col.

4, lines 4-6);

reading data bytes from each payload of the plurality of associated virtual containers (e.g.

cells are read from SDH frames);

and re-assembling the data from the plurality of read payload data bytes (col. 4, lines 4-6).

- With respect to claims 22, 25-26, & 28-29, Saijonmaa teaches a method of recovering a

data block carried in a plurality of payloads of a plurality of associated synchronous digital

hierarchy virtual containers (SDH frames in Fig. 1). The method comprises steps of: receiving a

plurality of streams of the plurality of associated virtual containers (SDH frames receive at 1B in

Fig. 1);

for each the received virtual container stream allocating a corresponding respective

memory area for storage of data payloads of virtual containers of the stream (block 23 in Fig. 2);

storing the plurality of virtual container payloads in the corresponding allocated memory

areas and reading individual bytes of the plurality of stored virtual container data payloads in

sequence to reconstruct the data block (block 22 in Fig. 2).

- With respect to claim 24, Saijonmaa discloses further comprising the step of assembling

the data frame from the parallel read data (col. 4, lines 4-6).

4.   Claims 4, 15, 23 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Saijonmaa et al. (U.S. Patent No. 5706285) in view of Oksanen et al. (U.S. Patent No. 5666351).

- With respect to claims 4 & 15, Saijonmaa discloses all the aspect of the claimed

invention as set forth above but fails to teach wherein the step of inputting the transported data

into the plurality of virtual containers comprises byte interleaving bytes of a frame of the transported data between the pluralities of payloads. Oksanen teaches inputting data into the virtual containers by interleaving (col. 2, lines 41-43). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the scheme of interleaving data into Virtual Container to transmit in SDH network for mapping from lower-level unit to higher-level frame.

- With respect to claims 23 & 27, Saijonmaa also fails to teaches wherein the data frame is distributed between the plurality of virtual containers and the step of: for each the memory area, setting a read pointer to a memory location of the memory area. Oksanen teaches setting a pointer in the virtual container for inputting data frame into the memory area (col. 3, lines 16-22). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to implement the pointer for inputting data into associated memory location of the memory area and data information.

Allowable Subject Matter

5.   Claims 9, 11, 21, 33, 34 & 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6.   Applicant's arguments filed 12/4/2003 have been fully considered but they are not persuasive.

- Applicant's argument that Saijonmaa teaches the overhead bytes is included in the

payloads of the SDH virtual container rather than in the path overheads (Fig. 3 and 4).

Examiner respectfully disagrees. It is well known in the art that SDH frame, which has

transport overhead, path overhead and payload. Saijonmaa teaches overhead bytes,

therefore it would have been obvious to understand the overhead bytes that is included in

the overhead section not in the payload. Fig. 3 shows the OH in front of the B, so the

overhead should be in the overhead section not in the payload.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to PHUC H TRAN whose telephone number is (703) 308-7471.
The examiner can normally be reached on M-F (8-4:30).

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, RAO SEEMA can be reached on (703) 308-5463. The fax phone numbers for the
organization where this application or proceeding is assigned are (703) 872-9314 for regular
communications and (703) 872-9314 for After Final communications.

        Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the receptionist whose telephone number is (703) 872-9314.

Phuc Tran
Assistant Examiner
Art Unit 2664
P.t
February 3, 2004